



ILC6

# PENTAGRID CONVERTER

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## GENERAL DATA

### Electrical:

#### Filament, Coated:

Voltage. . . . . 1.4 . . . . . dc volts  
Current. . . . . 0.05 . . . . . amp

#### Direct Interelectrode Capacitances:<sup>0</sup>

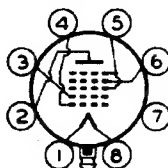
Grid No.4 to Plate . . . . . 0.28 . . . . .  $\mu$ f  
Mixer Input. . . . . 9.0 . . . . .  $\mu$ f  
Mixer Output . . . . . 5.5 . . . . .  $\mu$ f  
Oscillator Input . . . . . 2.4 . . . . .  $\mu$ f  
Oscillator Output. . . . . 4.8 . . . . .  $\mu$ f

<sup>0</sup> With external shield connected to negative filament terminal.

### Mechanical:

Mounting Position. . . . . Any  
Maximum Overall Length . . . . . 2-25/32"  
Maximum Seated Length. . . . . 2-1/4"  
Maximum Diameter . . . . . 1-3/16"  
Bulb . . . . . T-9  
Base . . . . . Lock-in 8-Pin  
Basing Designation for BOTTOM VIEW . . . . . 7AK

Pin 1-Filament (+)  
Pin 2-Plate  
Pin 3-Grid No.2  
Pin 4-Grid No.1  
Pin 5-Grid No.3,  
Grid No.5



Pin 6-Grid No.4  
Pin 7-No  
Connection  
Pin 8-Filament (-)  
Plug - Base Shell

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### Maximum Ratings, Design-Center Values:

PLATE VOLTAGE. . . . . 110 max. volts  
GRIDS-No.3 & No.5 (SCREEN) VOLTAGE . . . . . 45 max. volts  
GRIDS-No.3 & No.5 SUPPLY VOLTAGE . . . . . 110 max. volts  
GRID-No.2 (ANODE-GRID) VOLTAGE . . . . . 50 max. volts  
GRID-No.2 SUPPLY VOLTAGE . . . . . 110 max. volts  
TOTAL CATHODE CURRENT. . . . . 3.0 max. ma

### Typical Operation:

Plate Voltage. . . . . 45 90 volts  
Grids-No.3 & No.5 Voltage<sup>0</sup> . . . . . 35 35 volts  
Grid-No.2 Voltage. . . . . 45 45 volts  
Grid-No.4 (Control-Grid)  
Supply Voltage . . . . . 0 0 volts  
Min. Grid-No.4 Resistor. . . . . 1 1 megohm  
Grid-No.1 (Oscillator-Grid) Resistor . . . . . 0.2 0.2 megohm  
Plate Resistance . . . . . 0.3 0.65 megohm  
Conversion Transconductance. . . . . 250 275  $\mu$ hos  
Conversion Transconductance (Approx.)# . . . . . 5 5  $\mu$ hos

<sup>0</sup> #. See next page.

OCTOBER 15, 1947

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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Plate Current. . . . .	0.70	0.75	ma
Grids-No.3 & No.5 Current. . . . .	0.75	0.70	ma
Grid-No.2 Current. . . . .	1.4	1.4	ma
Grid-No.1 Current. . . . .	0.035	0.035	ma
Total Cathode Current. . . . .	2.9	2.9	ma

□ Obtained preferably by using a properly bypassed voltage-dropping resistor in series with the plate voltage supply. To avoid oscillation difficulties, the voltage of grids No.3 & No.5 must be at least 10 volts lower than the grid-No.2 voltage.

\* For grid-No.4 bias of -3 volts.

NOTE: The characteristics of the oscillator section (not oscillating) are: transconductance = approx. 550  $\mu$ mhos;  $\mu$  = 14; and grid-No.2 current = 2.7 ma. under the following conditions: plate volts = 90; grids No.3 & No.5 volts = 45; grid-No.4 volts = 0; grid-No.2 volts = 90; grid-No.1 volts = 0.

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